



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/719,031	11/24/2003	Jun Koyama	12732-177001 /US6764	9159
26171	7590	06/14/2006	EXAMINER	
FISH & RICHARDSON P.C. P.O. BOX 1022 MINNEAPOLIS, MN 55440-1022			SHERMAN, STEPHEN G	
			ART UNIT	PAPER NUMBER
			2629	

DATE MAILED: 06/14/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No. 10/719,031	Applicant(s) KOYAMA ET AL.	
	Examiner Stephen G. Sherman	Art Unit 2629	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 July 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-18 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-18 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 26 July 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|---|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date <u>S-2404, 7-26-04, 9-27-04</u> | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Claim Objections

1. Claims 1-4 are objected to because of the following informalities: grammatical errors.

Claims 1-4 recite: "a pixel portion in which a pixel is arranged in matrix over..."

The claims should be changed to recite: "a pixel portion in which a pixel is arranged in a matrix over..." Appropriate correction is required.

2. Claims 1-4 are objected to as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

The claims recite "the first light emitting element emits light in only **one direction** perpendicular....the second light emitting element emitting element emits light in only **one direction** which is opposite to the **one direction** and perpendicular..." The limitation is indefinite because it is unclear as which *one direction* the second light emitting element emits light towards since the claim states that the first and second light emitting elements both emit light in *one direction*. The second light emitting element could be emitting light which is opposite to the *one direction* the first light emitting element is emitting light towards or the second light emitting element could be emitting light opposite to the *one direction* that the second light emitting element is emitting light towards. The examiner would suggest changing the claim to read either:

(i) “the first light emitting element emits light in only a **first direction** perpendicular....the second light emitting element emitting element emits light in only a **second direction** which is opposite to the **first direction** and perpendicular...” or

(ii) “the first light emitting element emits light in only **one direction** perpendicular....the second light emitting element emitting element emits light in only **one direction** which is opposite to the **one direction that the first light emitting element emits light** and perpendicular...”

For the purpose of examination, the examiner will regard the light emitting elements as emitting light in opposite directions.

Double Patenting

3. The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the “right to exclude” granted by a patent and to prevent possible harassment by multiple assignees. A nonstatutory obviousness-type double patenting rejection is appropriate where the conflicting claims are not identical, but at least one examined application claim is not patentably distinct from the reference claim(s) because the examined application claim is either anticipated by, or would have been obvious over, the reference claim(s). See, e.g., *In re Berg*, 140 F.3d 1428, 46 USPQ2d 1226 (Fed. Cir. 1998); *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) or 1.321(d) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent either is shown to be commonly owned with this application, or claims an invention made as a result of activities undertaken within the scope of a joint research agreement.

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

4. Claims 3-4, 7, 10-11, 13-15 and 17-18 are rejected on the ground of nonstatutory obviousness-type double patenting as being unpatentable over claim 2 of U.S. Patent No. 6,742,762 in view of Roosendaal et al. (US 2003/0063243).

Regarding claim 3, claim 2 of U.S. Patent No. 6,742,762 recites a display device comprising a display portion, the display portion comprising a source signal line driver circuit, a first gate signal line driver circuit, a second gate signal line driver circuit, and a plurality of pixels formed over a substrate, wherein a scanning direction of the first gate signal line driver circuit and a scanning direction of the second gate signal line driver circuit are orthogonal. The display device of claim 2 differs from claim 3 herein in that it fails to disclose wherein the pixel comprises a first light emitting element and a second light emitting element, the first light emitting element emits light in only one direction perpendicular to a surface of the substrate on which the pixel portion is formed, and the second light emitting element emits light in only one direction which is opposite to the one direction and perpendicular to the surface of the substrate on which the pixel portion is formed.

Roosendaal et al. disclose a display device comprising:

a pixel portion in which a pixel is arranged in matrix over a substrate, wherein the pixel comprises a first light emitting element and a second light emitting element (Figure 3 and paragraphs [0024]-[0025] explain that a pixel portion is arranged in a

Art Unit: 2629

matrix over substrate 13, and that first light emitting elements are electrodes 17 and 18 and second light emitting elements are electrodes 15 and 16.),

the first light emitting element emits light in only one direction perpendicular to a surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0027] explain that direction 8 is viewable when drive signals are applied to electrodes 16 thus emitting light so as to display an image.), and

the second light emitting element emits light in only one direction which is opposite to the one direction and perpendicular to the surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0026] explain that direction 7 is viewable when drive signals are applied to electrodes 18 thus emitting light so as to display an image.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to modify the pixel portion of claim 2 of U.S. Patent No. 6,742,762 to include a first and second light emitting device as taught by Roosendaal et al. in order to allow a user to view information on the device on two sides of the display without causing a cost-increasing effect.

Regarding claim 4, claim 2 of U.S. Patent No. 6,742,762 recites a display device comprising a display portion, the display portion comprising a source signal line driver circuit, a first gate signal line driver circuit, a second gate signal line driver circuit, and a plurality of pixels formed over a substrate, wherein a scanning direction of the first gate signal line driver circuit and a scanning direction of the second gate signal line

driver circuit are orthogonal. The display device of claim 2 differs from claim 3 herein in that it fails to disclose wherein the pixel comprises a first light emitting element and a second light emitting element, the first light emitting element emits light in only one direction perpendicular to a surface of the substrate on which the pixel portion is formed, the second light emitting element emits light in only one direction which is opposite to the one direction and perpendicular to the surface of the substrate on which the pixel portion is formed, a means for selecting either of the two directions in which the first light emitting element and the second light emitting element emit light, and a means for selecting both of the two directions.

Roosendaal et al. disclose a display device comprising:

a pixel portion in which a pixel is arranged in matrix over a substrate, wherein the pixel comprises a first light emitting element and a second light emitting element (Figure 3 and paragraphs [0024]-[0025] explain that a pixel portion is arranged in a matrix over substrate 13, and that first light emitting elements are electrodes 17 and 18 and second light emitting elements are electrodes 15 and 16.),

the first light emitting element emits light in only one direction perpendicular to a surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0027] explain that direction 8 is viewable when drive signals are applied to electrodes 16 thus emitting light so as to display an image.), and

the second light emitting element emits light in only one direction which is opposite to the one direction and perpendicular to the surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0026] explain that direction 7 is

viewable when drive signals are applied to electrodes 18 thus emitting light so as to display an image.),

a means for selecting either of the two directions in which the first light emitting element and the second light emitting element emit light (Paragraph [0026] states that when the device is in the closed state, as in Figure 2B, the device is viewable in direction 7 shown in Figure 3. The examiner interprets that since the user has the ability to open and close the device, that this would be a means for selecting either of the directions 7 or 8.); and

a means for selecting both of the two directions (Paragraph [0033] explains that by switches 36, diodes 35a can be connected to drive the display in one of the two directions, meaning that the switches and diodes are a means for selecting both of the directions.).

Therefore it would have been obvious to "one of ordinary skill" in the art at the time the invention was made to modify the pixel portion of claim 2 of U.S. Patent No. 6,742,762 to include a first and second light emitting device as taught by Roosendaal et al. in order to allow a user to view information on the device on two sides of the display without causing a cost-increasing effect.

Regarding claim 7, this claim is rejected under the same rationale as claim 3.

Regarding claims 10 and 11, Claim 2 of U.S. Patent No. 6,742,762 and Roosendaal et al. disclose the display device according to claims 3 and 4.

Roosendaal et al. also disclose wherein the first light emitting element comprises a first pixel electrode (Figure 3, elements 17 and 18 are pixel electrodes.), an organic compound layer and a counter electrode (Figure 3 and paragraph [024] explain that liquid crystal material 12 is located with the first and second light emitting elements, where it is known that the most common liquid crystal devices are organic since they are composed of carbon, nitrogen and oxygen and it is also known that liquid crystal devices contain a counter electrode.); and the second light emitting element comprises a second pixel electrode (Figure 3, elements 15 and 16 are pixel electrodes.), the organic compound layer and the counter electrode (Figure 3 shows that the second light emitting element also comprises of the liquid crystal layer 12.).

Regarding claims 13 and 14, Claim 2 of U.S. Patent No. 6,742,762 and Roosendaal et al. disclose the display device according to claims 3 and 4.

Roosendaal et al. also disclose wherein the display device comprises a means for selecting whether the first light emitting element emits light or no light; and a means for selecting whether the second light emitting element emits light or no light (Paragraph [0033] explains that LEDs 35a and 35b which alternately emit light, meaning that when LEDs 35a are connected through switches 36 they emit light and LEDs 35b do not emit light and when LEDs 35b. are connected through switches 36 they emit light and LEDs 35a do not emit light.).

Regarding claim 15, this claim is rejected under the same rationale as claim 4.

Regarding claims 17 and 18, Claim 2 of U.S. Patent No. 6,742,762 and Roosendaal et al. disclose the display device according to claims 3 and 4.

Roosendaal et al. also disclose an electronic device using the display device according to claims 1 and 2 (Figures 1A-1B and 2A-2B).

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

6. Claims 1-2, 5-6, 8-9, 12 and 16 are rejected under 35 U.S.C. 102(e) as being anticipated by Roosendaal et al. (US 2003/0063243).

Regarding claim 1, Roosendaal et al. disclose a display device comprising:

a pixel portion in which a pixel is arranged in matrix over a substrate, wherein the pixel comprises a first light emitting element and a second light emitting element (Figure 3 and paragraphs [0024]-[0025] explain that a pixel portion is arranged in a

matrix over substrate 13, and that first light emitting elements are electrodes 17 and 18 and second light emitting elements are electrodes 15 and 16.),

the first light emitting element emits light in only one direction perpendicular to a surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0027] explain that direction 8 is viewable when drive signals are applied to electrodes 16 thus emitting light so as to display an image.), and

the second light emitting element emits light in only one direction which is opposite to the one direction and perpendicular to the surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0026] explain that direction 7 is viewable when drive signals are applied to electrodes 18 thus emitting light so as to display an image.).

Regarding claim 2, Roosendaal et al. disclose a display device comprising:

a pixel portion in which a pixel is arranged in matrix over a substrate, wherein the pixel comprises a first light emitting element and a second light emitting element (Figure 3 and paragraphs [0024]-[0025] explain that a pixel portion is arranged in a matrix over substrate 13, and that first light emitting elements are electrodes 17 and 18 and second light emitting elements are electrodes 15 and 16.),

the first light emitting element emits light in only one direction perpendicular to a surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0027] explain that direction 8 is viewable when drive signals are applied to electrodes 16 thus emitting light so as to display an image.), and

the second light emitting element emits light in only one direction which is opposite to the one direction and perpendicular to the surface of the substrate on which the pixel portion is formed (Figure 3 and paragraph [0026] explain that direction 7 is viewable when drive signals are applied to electrodes 18 thus emitting light so as to display an image.),

a means for selecting either of the two directions in which the first light emitting element and the second light emitting element emit light (Paragraph [0026] states that when the device is in the closed state, as in Figure 2B, the device is viewable in direction 7 shown in Figure 3. The examiner interprets that since the user has the ability to open and close the device, that this would be a means for selecting either of the directions 7 or 8.); and

a means for selecting both of the two directions (Paragraph [0033] explains that by switches 36, diodes 35a can be connected to drive the display in one of the two directions, meaning that the switches and diodes are a means for selecting both of the directions.).

Regarding claims 5 and 9, Roosendaal et al. disclose the display device according to claims 1 and, wherein the first light emitting element comprises a first pixel electrode (Figure 3, elements 17 and 18 are pixel electrodes.), an organic compound layer and a counter electrode (Figure 3 and paragraph [024] explain that liquid crystal material 12 is located with the first and second light emitting elements, where it is known that the most common liquid crystal devices are organic since they are composed of

carbon, nitrogen and oxygen and it is also known that liquid crystal devices contain a counter electrode.); and the second light emitting element comprises a second pixel electrode (Figure 3, elements 15 and 16 are pixel electrodes.), the organic compound layer and the counter electrode (Figure 3 shows that the second light emitting element also comprises of the liquid crystal layer 12.).

Regarding claims 6 and 12, Roosendaal et al. disclose the display device according to claims 1 and 2, wherein the display device comprises a means for selecting whether the first light emitting element emits light or no light; and a means for selecting whether the second light emitting element emits light or no light (Paragraph [0033] explains that LEDs 35a and 35b which alternately emit light, meaning that when LEDs 35a are connected through switches 36 they emit light and LEDs 35b do not emit light and when LEDs 35b. are connected through switches 36 they emit light and LEDs 35a do not emit light.).

Regarding claims 8 and 16, Roosendaal et al. disclose an electronic device using the display device according to claims 1 and 2 (Figures 1A-1B and 2A-2B).

Conclusion

7. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Wei (US 6,674,496) discloses a liquid crystal device that can display images through both a first and second sides.

Higgenbotham et al. (US 5,896,575) disclose an electronic device that has a display that is constructed and arranged such that the image is viewable from a first and a second side.

Park (GB 2,305,532) discloses a liquid crystal display which enables the observation of data on a front and rear surfaces with use of only a single liquid crystal cell.


8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Stephen G. Sherman whose telephone number is (571) 272-2941. The examiner can normally be reached on M-F, 8:00 a.m. - 4:30 p.m..

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Amr Awad can be reached on (571) 272-7764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

SS

7 June 2006



RICHARD HJERPE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600